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Inventors: John R. TUTTLE

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Examiner: Zimmerman, B.

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Robert J. Stern — April 4, 2002 (Date)

Commissioner for Patents
Washington, D.C. 20231

APPEAL BRIEF OF APPELLANT

Applicant submits this Appeal Brief in triplicate pursuant to Applicant's Notice of Appeal filed December 4, 2001. A check is attached for the $320.00 fee required by 37 CFR 1.17(c).

Applicant hereby appeals from the final rejection mailed September 4, 2001 of claims 1–27.

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1. REAL PARTY IN INTEREST

The real party in interest is the assignee of record, Micron Technology, Inc.

2. RELATED APPEALS AND INTERFERENCES

An appeal brief was filed on 3/4/02 in application SN 09/631,060, which is a divisional of the same parent application under which the present continuation application claims priority.

3. STATUS OF CLAIMS

Claims 1–27 are finally rejected and are the claims on appeal. No other claims are pending.

4. STATUS OF AMENDMENTS

In the Advisory Action mailed December 26, 2001, the Examiner entered Applicant's amendment after final rejection filed December 5, 2001.

5. SUMMARY OF THE INVENTION

The invention is a method and apparatus for adjusting the 2-way communication range of an RFID (radio frequency identification) system.

A conventional RFID system permits a person (10) to detect the presence of, and collect information from, any object (12) that is outfitted with an RF transceiver is called a "tag transceiver" or simply "tag" (16, 30–40). An object outfitted with a tag is called a "tagged object" (12). The person communicates with the tags by operating an RF transceiver called an "interrogator transceiver" or simply "interrogator" (20, 50–60). Conventionally, a tag sends identifying information to the interrogator in response to requests from the interrogator. Typical objects that may be identified by an interrogator include parcels being shipped or parts in inventory at a warehouse. Therefore, there typically will be a plurality of tags in close proximity. It is desirable to enable a person and his/her interrogator to communicate with a single tag without interference from other nearby tags.

The invention is directed to a method and apparatus for minimizing interference among the tags being handled by a person by adjusting the 2-way communication range between the interrogator and the tag. Each of claims 1–27 is directed to a method or apparatus for adjusting the 2-way communication range of an RFID system in which a person (10) operates an interrogator transceiver (20, 50–60 in Figs. 1 & 3; specification page 5, lines 32–35) to individually interrogate one or more tagged objects (12) that each include an RFID tag transceiver (16, 30–40 in Figs. 1 & 2; specification page 5, lines 23–31). The 2-way communication range between the interrogator transceiver and the tag transceiver is adjusted to exceed, by only a limited amount, the closest distance between the interrogator and the tag that is achieved while the operator is handling the tagged object. Because the 2-way range is limited by said limited amount, the invention advantageously minimizes or eliminates

the likelihood that RFID tags on objects other than the one that an operator presently is handling will respond to the interrogator transceiver. (Specification, page 2, lines 1–17; page 6, line 1 – page 8, line 13.)

The aforesaid "limited amount" is defined differently according to different aspects of the invention. In a first aspect (claim groups 1 and 4), the limitation is that the 2-way range *only slightly* exceeds the closest distance, during times when the person handles the tagged object, between the interrogator and the tag transceiver mounted on that tagged object. (Specification, page 2, lines 11–17; page 6, lines 6–9 and 20–23.) In a second aspect (claim groups 2 and 5), the limitation is that the 2-way range is short enough so that, when the person handles a tagged object, no other tagged object being handled by any *other person* is within reliable two-way communication range of the interrogator. (Specification, page 2, lines 26–33; page 11, lines 6–16.) In a third aspect (claim groups 3 and 6), the limitation is that the 2-way range is short enough so that, when the person handles a tagged object, *no other tagged object* is within reliable two-way communication range of the interrogator. (Specification, page 2, lines 14–17; page 6, lines 9–10 and 26–32.)

6. ISSUE

Whether claims 1–27 are patentable under 35 USC 103 over Verster (5,214,410) and Landt (5,030,807) and Boyles (5,602,535).

7. GROUPING OF CLAIMS

Group 1: Claims 1, 5–9, 15, 18, 24 and 27 stand or fall together as a group.

Group 2: Claims 2, 16 and 25 stand or fall together as a group.

Group 3: Claims 3, 4, 17 and 26 stand or fall together as a group.

Group 4: Claims 10, 13, 14, 19, 22 and 23 stand or fall together as a group.

Group 5: Claims 11 and 20 stand or fall together as a group.

Group 6: Claims 12 and 21 stand or fall together as a group.

8. ARGUMENT

Arguments Applicable to All Claims

Each of claims 1–27 is directed to a method or apparatus for adjusting the 2-way communication range of an RFID system in which a person (10) operates an interrogator transceiver (20, 50–60) to individually interrogate one or more tagged objects (12) that each include an RFID tag transceiver (16, 30–40). The 2-way communication range between the interrogator transceiver and the tag transceiver is adjusted to exceed, by only a limited amount, the closest distance between the interrogator and the tag that is achieved while the operator is handling the tagged object. Because the 2-way range is limited by said limited amount, the invention advantageously minimizes or eliminates the likelihood that RFID tags on objects other than the one that an operator presently is handling will respond to the interrogator transceiver.

Claims 1–27 are patentable because none of the references teaches adjusting or limiting a 2-way communication range. (Applicant's specification defines the term "2-way communication range". The definition is set forth below in the section discussing the Landt reference, beginning on page 5.)

Verster

Verster discloses a portable direction-finding transceiver 12 used to locate an object such as suitcase 20 having an RFID tag transponder 18. The Examiner admits that "Verster lacks any disclosure of adjusting any sort of communication range" (final rejection, page 4, paragraph 4). Therefore, Verster cannot be considered to suggest adjusting a 2-way communication range as in the claimed invention.

Landt

Since Verster lacks any disclosure related to adjusting communication range, the Examiner relies upon Landt as suggesting to adjust a 2-way communication range as in the claimed invention. Applicant respectfully contends that Landt fails to suggest adjusting a 2-way communication range as defined by Applicant's specification.

Landt discloses an RF identification tag transceiver (Fig. 3) capable of switching between two receiver sensitivity modes: a low sensitivity mode that consumes little battery current, and a high sensitivity mode that consumes much higher battery current. The receiver portion of Landt's tag remains in the low sensitivity, low battery drain mode when it is not receiving an RF signal from an interrogator (col. 8, lines 14–23). When it detects an RF signal from an interrogator, the receiver switches to the high sensitivity mode in order to more reliably receive the signal (col. 8, lines 23–50).

The only adjustment disclosed by Landt that affects communication range is switching between two tag receiver sensitivities as described in the preceding paragraph. The Examiner acknowledges (final rejection, page 5, paragraph 7) that Landt's changing the tag receiver sensitivity changes the 1-way communication range of RF signals from the interrogator to the tag. Applicant emphasizes that Landt's changing the tag receiver sensitivity does not change the 1-way communication range in the opposite direction, from the tag to the interrogator. Therefore, as will be explained in the next several paragraphs, Landt fails to disclose changing or adjusting the 2-way communication range as in the claimed invention.

In interpreting the claims, it is important that the term "2-way communication range" is not used in a general sense, but has the specific meaning defined in Applicant's specification. The specification (page 7, lines 5–13) defines the 2-way communication range as the *lesser* of 1-way range A and 1-way range B, where "range A"is the 1-way communication range from the tag to the interrogator, and "range B" is the 1-way communication range from the interrogator to the tag. (The specification uses lower case letters "a" and "b", but this appeal brief uses uppercase letters A and B to improve readability.)

As explained in the specification (page 7, lines 14–24), these two 1-way ranges "A" and "B" generally are not equal. "Range A" is determined by the tag's transmitter power and the interrogator's receiver sensitivity, whereas "range B" is determined by the interrogator's transmitter power and the tag's receiver sensitivity.

The claims require adjusting the 2-way communication range, which means, as explained in the second preceding paragraph, adjusting whichever one of the two 1-way ranges is shorter. Specifically, the claims require that whichever one of these two 1-way ranges is shorter is the one that must be set to exceed, by a limited amount, the specified distance recited in the claim. The other one of these two 1-way ranges can be any greater value.

Landt lacks any disclosure of adjusting the 2-way communication range as required by the claimed invention. Landt's switching between two sensitivities in the tag receiver affects only the 1-way communication range B from the interrogator to the tag. Landt does not disclose adjusting or switching any parameter that would affect the opposite 1-way communication range, i.e., the 1-way range A from the tag to the interrogator.

Because Applicant's specification defines the 2-way range as the *lesser* of the two 1-way ranges A and B, adjusting the larger one of these two ranges would have no affect on the defined 2-way range, and the 2-way range would remain constant. Landt lacks any suggestion of whether the 1-way range A from the tag to the interrogator, which Landt does *not* adjust, is greater than or less than the 1-way communication range B from the interrogator to the tag. If Landt's fixed 1-way range A from the tag to the interrogator happens to be less than the shortest range to which Landt adjusts the 1-way range B from the interrogator to the tag, then the 2-way range as defined by Applicant will not be adjusted at all; it will remain constant. (Specifically, the 2-way range will remain equal to the 1-way range A from the tag to the interrogator that Landt does not adjust.) Consequently, Landt's adjusting the tag receiver sensitivity will not adjust the 2-way communication range.

While the fixed 1-way range A in Landt's system may happen to be greater than that supposed in the preceding paragraph, the fact remains that Landt lacks any disclosure regarding the relative

transmitter powers and receiver sensitivities of the interrogator and tag. Consequently, a practitioner in the art cannot infer from Landt's disclosure whether 1-way range A from Landt's tag to the interrogator is greater or less than 1-way range B from Landt's interrogator to the tag. Hence, such practitioner cannot infer whether Landt's adjustable tag receiver sensitivity has any affect on Landt's 2-way communication range. Therefore, Landt fails to disclose or suggest adjusting the 2 way communication range between the interrogator and the tag.

Therefore, Landt lacks any disclosure or suggestion of adjusting the 2-way communication range as that term is defined in Applicant's specification. Since Landt lacks any suggestion of adjusting the 2-way communication range, Landt certainly lacks any suggestion of adjusting it within the limited values (see the Summary of the Invention on pages 2–3, above) specified in the different aspects of the claimed invention.

Examiner's Counter-Arguments re Landt

The Examiner (final rejection, page 5, paragraph 7) offers two counter-arguments in response to Applicant's preceding argument distinguishing Landt from the Applicant's adjustable 2-way communication range.

The Examiner's first counter-argument is that the claims are not entitled to be interpreted in accordance with the definition of "2-way communication range" explicitly set forth the Applicant's specification (page 7, lines 3–5). Instead, the Examiner states that the term "2-way range" should be "given its normally construed meaning as known in the art".

However, the Examiner fails to cite any reference supporting a definition of "2-way communication range" that contradicts the definition set forth in Applicant's specification. Furthermore, the Examiner fails to quote or otherwise explicate his allegedly normal definition, leaving Applicant and the public in the dark as to the definition on which the Examiner bases his claim interpretation.

More importantly, it is a long established legal principle that a patent applicant is entitled to be

his own lexicographer. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 39 USPQ2d 1573 (Fed. Cir. 1996); *Serrano v. Telular Corp.*, 111 F.3d 1578, 42 USPQ2d 1528 (Fed. Cir. 1997); *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 45 USPQ2d 1429 (Fed. Cir. 1998); *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 47 USPQ2d 1418 (Fed. Cir. 1998).

In fact, each of the cited Federal Circuit cases holds that a definition in the patent specification takes precedence over a completely contrary definition in common usage or in a dictionary. Therefore, the Examiner is legally erroneous in refusing to interpret the claims in accordance with the definition of "2-way communication range" explicitly stated in Applicant's specification.

The definition of "2-way communication range" in Applicant's specification is quite clear and concise. It is not in any way "confusing" as characterized by the Examiner. Quoting the specification at page 7, lines 3–5: "the reliable 2-way communication range is the lesser of (a) the maximum distance over which the interrogator can reliably receive RF signals from the tag, and (b) the maximum distance over which the tag can reliably receive RF signals from the interrogator."

Besides being clear and concise, the quoted definition is logical and intuitive. It is logical that the maximum range over which 2-way communication can be performed is the lesser of the two 1-way ranges in opposite directions. For example, suppose the interrogator and tag have receivers of equal sensitivity, but that the interrogator has a more powerful transmitter than the tag. In that case, the 1-way range A from the tag to the interrogator will be less than the 1-way range B from the interrogator to the tag. Further suppose that the interrogator and the tag attempt to communicate while separated by a distance intermediate between range A and range B. In that case, communication would be achieved only in one direction: the tag could receive transmissions from the interrogator, but the interrogator could not receive transmissions from the tag. By any definition, 2-way communication requires successful communication in both directions, so 2-way communication would not be achieved. Therefore, 2-way communication requires the interrogator and tag to be no farther apart than the *lesser* of the two 1-way communication ranges.

The Examiner's second counter-argument (final rejection, page 5, last two unnumbered paragraphs) is that adjusting the 1-way range from the interrogator to the tag inherently adjusts the 2-way range. This counter-argument is factually erroneous. An example of how Landt's adjusting such 1-way range can fail to adjust the 2-way range was given in the preceding discussion comparing Landt's disclosure with Applicant's claimed adjustment of the 2-way range.

Specifically, it was discussed above that Landt's disclosure does not stipulate whether the fixed 1-way range A from the tag to the interrogator is greater or less than the adjustable 1-way range B from the interrogator to the tag. As explained more fully above, if range A happens to be less than range B, then Landt's adjusting the tag receiver sensitivity will not adjust the 2-way communication range. Because Landt lacks any suggestion of whether the fixed 1-way range A from the tag to the interrogator is greater or less than the adjustable 1-way range B from the interrogator to the tag, Landt fails to disclose sufficient information to infer whether Landt's adjustable tag receiver sensitivity has any affect on the 2-way communication range. Therefore, Landt fails to disclose or suggest adjusting the 2-way communication range between the interrogator and the tag.

Boyles

The Examiner interprets Boyles to suggest "limiting the range of a transmitter receiver pair such that the distance between the transmitter and the receiver during operation is 'only' slightly greater than the closest distance between the transmitter and receiver pair to prevent the operation of other transponders, since they will be out of range." (Final rejection, page 3, first full paragraph.)

The rejection does not specify which features of the claimed invention are considered to be disclosed or suggested by the Examiner's interpretation of Boyles.

Furthermore, the Examiner's characterization of Boyles is contradictory. In the quoted passage on page 3, the Examiner refers to transponders disclosed by Boyle, but on page 6, paragraph 8, the Examiner admits that Boyles does not disclose a transponder.

The system disclosed by Boyles is a remote control for unlocking automobiles. Boyles'

remote control device held by the user is only a transmitter, without any receiving capability. The device within each automobile is only a receiver, without any transmitting capability.

Since a transceiver or transponder device must have both a transmitting and a receiving capability, Boyles fails to disclose a transceiver or transponder. Therefore, Boyles lacks any disclosure of either an interrogator transceiver or an RFID tag transceiver as required by the claimed invention.

Furthermore, the system disclosed by Boyles does not include permit any 2-way communication; it only permits 1-way communication from the handheld remote control transmitter to the receivers within the automobiles. Therefore, Boyles lacks any disclosure of adjusting or limiting a 2-way communication range as required by the claimed invention.

Although Boyles does disclose limiting the range of this 1-way communication, this cannot be considered to suggest the claimed invention which adjusts the 2-way communication range. As explained in the preceding discussion of the Landt reference, adjusting the 2-way communication range as defined by Applicant is not obvious based on a prior art disclosure of adjusting or limiting a 1-way communication range, because adjusting the 1-way range in only one direction may not affect the 2-way communication range at all.

Summary of Arguments Applicable to All Claims

None of the references suggests adjusting a "2-way communication range", as that term is defined by Applicant's specification. Therefore, all pending claims 1–27 are patentable.

Group 1: Claims 1, 5–9, 15, 18, 24 and 27

Claims 1, 5–9, 15, 18, 24 and 27 recite that the 2-way range *only slightly* exceeds the closest distance, during times when the person handles the tagged object, between the interrogator and the tag transceiver mounted on that tagged object. These claims are patentable for the reasons set forth in the preceding section entitled "Arguments Applicable to All Claims".

Group 2: Claims 2, 16 and 25

Claims 2, 16 and 25 recite that the 2-way range is short enough so that, when the person handles a tagged object having a tag transceiver, no other tag transceivers on tagged objects being handled by any *other person* are within reliable two-way communication range of the interrogator. These claims are patentable for the reasons set forth in the preceding section entitled "Arguments Applicable to All Claims".

Claims 2, 16 and 25 further distinguish the prior art because none of the references discloses two persons handling or interrogating tagged objects. Accordingly, none of the references discloses limiting the communication range between one person's interrogator and a tag transceiver so that said communication range is too short to include tag transceivers on tagged objects being handled by another person.

Group 3: Claims 3, 4, 17 and 26

Claims 3, 4, 17 and 26 recite that the 2-way range is short enough so that, when the person handles a tagged object having a tag transceiver, *no other tagged object* is within reliable two-way communication range of the interrogator. These claims are patentable for the reasons set forth in the preceding section entitled "Arguments Applicable to All Claims".

Claims 3, 4, 17 and 26 further distinguish the prior art because none of the references discloses limiting a 2-way communication range to exclude more than one tagged object from the range.

The Examiner cites Boyles as disclosing limiting the communication range from an transmitter to receiver to prevent operation of other receiver outside the range. However, Boyles does not disclose any 2-way transceivers, and Boyles only discloses 1-way communication from a transmitter to a receiver. As explained in Applicant's discussion of Boyles beginning on page 10, above, Boyles' adjusting or limiting such 1-way communication range from a transmitter to a receiver fails to suggest limiting the 2-way range between two transceivers, as required by the claimed invention.

Therefore, claims 3, 4, 17 and 26 are patentable.

Group 4: Claims 10, 13, 14, 19, 22 and 23

Claims 10, 13, 14, 19, 22 and 23 are similar to the claims of Group 1 discussed above, but are further limited by reciting that a performance parameter of the interrogator transceiver is adjusted in order to adjust the previously discussed 2-way communication range.

These claims are patentable for the reasons set forth in the preceding section entitled "Arguments Applicable to All Claims".

In addition, these claims further distinguish the Landt reference because Landt adjusts only a performance parameter of the tag (specifically, the receiver sensitivity of the tag) rather than a performance parameter of the interrogator. Therefore, claims 10, 13, 14, 19, 22 and 23 are patentable.

Group 5: Claims 11 and 20

Claims 11 and 20 are similar to the claims of Group 2 discussed above, but are further limited by reciting that a performance parameter of the interrogator transceiver is adjusted in order to adjust the previously discussed 2-way communication range. These claims are patentable for the reasons set forth in the preceding discussion of the Group 2 claims.

In addition, these claims further distinguish the Landt reference because Landt adjusts only a performance parameter of the tag (specifically, the receiver sensitivity of the tag) rather than a performance parameter of the interrogator. Therefore, claims 11 and 20 are patentable.

Group 6: Claims 12 and 21

Claims 12 and 21 are similar to the claims of Group 3 discussed above, but are further limited by reciting that a performance parameter of the interrogator transceiver is adjusted in order to adjust the previously discussed 2-way communication range. These claims are patentable for the reasons set

forth in the preceding discussion of the Group 3 claims.

In addition, these claims further distinguish the Landt reference because Landt adjusts only a performance parameter of the tag (specifically, the receiver sensitivity of the tag) rather than a performance parameter of the interrogator. Therefore, claims 12 and 21 are patentable.

Respectfully submitted,

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9. Appendix — Claims on Appeal

1. A method of adjusting the two-way communication range of an RFID system to permit a person to individually handle and interrogate each one of a plurality of tagged objects, each tagged object having an RFID tag transceiver, comprising the steps of:

mounting on the person an RFID interrogator transceiver having an antenna;

mounting on each tagged object an RFID tag transceiver, wherein

each tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between that tag transceiver and the interrogator transceiver, and

the interrogator transceiver is characterized by a set of one or more performance parameters which control the reliable two-way communications range between the interrogator transceiver and any of the tag transceivers; and

adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceiver of each of the tagged objects only slightly exceeds the closest distance, during times when the person handles that tagged object, between the antenna of the interrogator and the tag transceiver mounted on that tagged object.

2. A method of adjusting the two-way communication range of an RFID system to permit a person to individually handle and interrogate each one of a plurality of tagged objects, each tagged object having an RFID tag transceiver, comprising the steps of:

mounting on the person an RFID interrogator transceiver having an antenna;

mounting on each tagged object an RFID tag transceiver, wherein

each tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between that tag transceiver and the interrogator transceiver, and

the interrogator transceiver is characterized by a set of one or more performance parameters which control the reliable two-way communications range between the interrogator transceiver and any of the tag transceivers; and

adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceiver of each of the tagged objects exceeds the closest distance, during times when the person handles that tagged object, between the antenna of the interrogator and the tag transceiver mounted on that tagged object;

wherein the adjusting step further comprises adjusting said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when the person handles a tagged object, no other tagged object being handled by any other person is within reliable two-way communication range of the interrogator.

3. A method of adjusting the two-way communication range of an RFID system to permit a person to individually handle and interrogate each one of a plurality of tagged objects, each tagged object having an RFID tag transceiver, comprising the steps of:

mounting on the person an RFID interrogator transceiver having an antenna;

mounting on each tagged object an RFID tag transceiver, wherein

each tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between that tag transceiver and the interrogator transceiver, and

the interrogator transceiver is characterized by a set of one or more performance parameters which control the reliable two-way communications range between the interrogator transceiver and any of the tag transceivers; and

adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceiver of each of the tagged objects exceeds the closest distance, during times when the person handles that tagged object, between

the antenna of the interrogator and the tag transceiver mounted on that tagged object;

wherein the adjusting step further comprises adjusting said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when the person handles a tagged object, no other tagged object is within reliable two-way communication range of the interrogator.

4. A method according to claim 3, wherein the adjusting step further comprises adjusting said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when the person handles a tagged object, no other tagged object is within either reliable or unreliable two-way communication range of the interrogator.

5. A method according to claim 1, wherein:

the performance parameters of each tag transceiver include a receiver sensitivity of the tag transceiver;

the performance parameters of the interrogator transceiver include a receiver sensitivity of the interrogator transceiver and a transmitter output power of the interrogator transceiver; and

the adjusting step includes adjusting at least one of the receiver sensitivity of the tag transceiver, the receiver sensitivity of the interrogator transceiver, and the transmitter output power of the interrogator transceiver.

6. A method according to claim 1, wherein each tag transceiver is a modulated backscatter transceiver.

7. A method according to claim 1, further comprising the steps of:

the interrogator transceiver transmitting an interrogation message while the person is close enough to a tagged object for the antenna of the interrogator transceiver and that tagged object's transceiver to be within the communications range;

the transceiver of that tagged object transmitting, in response to the interrogation message, an identification message containing data identifying that tagged object; and

the interrogator transceiver receiving the identification message and presenting the data to said person.

8. A method of adjusting the two-way communication range of an RFID system to permit a person to individually handle and interrogate each one of a plurality of tagged objects, each tagged object having an RFID tag transceiver, comprising the steps of:

mounting adjacent the person an RFID interrogator transceiver having an antenna;

mounting on each tagged object an RFID tag transceiver, wherein

each tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between that tag transceiver and the interrogator transceiver, and

the interrogator transceiver is characterized by a set of one or more performance parameters which control the reliable two-way communications range between the interrogator transceiver and any of the tag transceivers; and

adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceiver of each of the tagged objects only slightly exceeds the closest distance, during times when the person handles that tagged object, between the antenna of the interrogator and that tagged object.

9. A method according to claim 8, wherein the step of mounting the interrogator transceiver further comprises:

mounting the interrogator transceiver on the person so as to leave the hands of the person free to grasp objects other than the interrogator transceiver.

10. An RFID interrogator apparatus having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, wherein each tagged object has a respective RFID tag transceiver attached thereto, comprising:

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers only slightly exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object.

11. An RFID interrogator apparatus having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, wherein each tagged object has a respective RFID tag transceiver attached thereto, comprising:

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles a tagged object, no other tagged object being handled by any other person is within reliable two-way communication range of the interrogator transceiver.

12. An RFID interrogator apparatus having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, wherein each tagged object has a respective RFID tag transceiver attached thereto, comprising:

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles a tagged object, no other tagged object is within reliable two-way communication range of the interrogator transceiver.

13. Interrogator apparatus according to claim 10, wherein:

the interrogator transceiver includes a receiver circuit having an adjustable sensitivity; and

said at least one performance parameter adjusted by the control logic circuit includes the sensitivity of the receiver circuit.

14. Interrogator apparatus according to claim 10, wherein:

the interrogator transceiver includes a transmitter circuit having an adjustable output power; and

said at least one performance parameter adjusted by the control logic circuit includes the output power of the transmitter.

15. An RFID tag having an adjustable two-way communication range so as to permit a person operating an RFID interrogator transceiver to individually interrogate the tag without interrogating other RFID tags which are more distant from the interrogator transceiver, comprising:

an RFID tag transceiver adapted for attachment to a tagged object, wherein the tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and any RFID interrogator transceiver; and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the tag transceiver and any interrogator transceiver only slightly exceeds the closest distance, during times when said person handles a tagged object to which the tag transceiver is attached, between said interrogator transceiver and the tag transceiver.

16. An RFID tag having an adjustable two-way communication range so as to permit a person operating an RFID interrogator transceiver to individually interrogate the tag without interrogating other RFID tags which are more distant from the interrogator transceiver, comprising:

an RFID tag transceiver adapted for attachment to a tagged object, wherein the tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and any RFID interrogator transceiver; and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the tag transceiver and any interrogator transceiver exceeds the closest distance, during times when said person handles a

tagged object to which the tag transceiver is attached, between said interrogator transceiver and the tag transceiver;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles the tagged object to which the tag transceiver is attached, no other tagged object being handled by any other person is within reliable two-way communication range of the interrogator transceiver.

17. An RFID tag having an adjustable two-way communication range so as to permit a person operating an RFID interrogator transceiver to individually interrogate the tag without interrogating other RFID tags which are more distant from the interrogator transceiver, comprising:

an RFID tag transceiver adapted for attachment to a tagged object, wherein the tag transceiver is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and any RFID interrogator transceiver; and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the tag transceiver and any interrogator transceiver exceeds the closest distance, during times when said person handles a tagged object to which the tag transceiver is attached, between said interrogator transceiver and the tag transceiver;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles the tagged object to which the tag transceiver is attached, no other tagged object is within reliable two-way communication range of the interrogator transceiver.

18. A tag according to claim 15, wherein:

the tag transceiver includes a receiver circuit having an adjustable sensitivity; and

said at least one performance parameter adjusted by the control logic circuit includes the

sensitivity of the receiver circuit.

19. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

a plurality of tagged objects, wherein each tagged object includes a respective RFID tag transceiver attached thereto;

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers only slightly exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object.

20. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

a plurality of tagged objects, wherein each tagged object includes a respective RFID tag transceiver attached thereto;

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles a tagged object, no other tagged object being handled by any other person is within reliable two-way communication range of the interrogator transceiver.

21. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

a plurality of tagged objects, wherein each tagged object includes a respective RFID tag transceiver attached thereto;

an RFID interrogator transceiver characterized by a set of one or more performance parameters which control a reliable two-way communications range between the interrogator transceiver and any of the RFID tag transceivers;

an antenna which is connected to the interrogator transceiver and which is adapted for mounting on a person; and

a control logic circuit, connected to the interrogator transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the interrogator transceiver and the tag transceivers exceeds the closest distance, during times when said person handles a tagged object, between the antenna and the tag transceiver attached to that tagged object;

wherein the control logic circuit adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles a tagged object, no other tagged object is within reliable two-way communication range of the interrogator transceiver.

22. A system according to claim 19, wherein:

the interrogator transceiver includes a receiver circuit having an adjustable sensitivity; and

said at least one performance parameter adjusted by the control logic circuit includes the sensitivity of the receiver circuit.

23. A system according to claim 19, wherein:

the interrogator transceiver includes a transmitter circuit having an adjustable output power; and

said at least one performance parameter adjusted by the control logic circuit includes the output power of the transmitter.

24. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

an RFID interrogator transceiver having an antenna adapted for mounting on a person; and

a plurality of RFID tags, each tag being adapted for attachment to a tagged object, wherein each tag includes

an RFID tag transceiver which is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and the RFID interrogator transceiver, and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the tag transceiver and the interrogator transceiver only slightly exceeds the closest distance, during times when said person handles a tagged object to which said RFID tag is attached, between said interrogator transceiver and the tag transceiver of said RFID tag.

25. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

an RFID interrogator transceiver having an antenna adapted for mounting on a person; and

a plurality of RFID tags, each tag being adapted for attachment to a tagged object, wherein each tag includes

an RFID tag transceiver which is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and the RFID interrogator transceiver, and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the performance parameters so that the reliable two-way communications range between the tag transceiver and the interrogator transceiver exceeds the closest distance, during times when said person handles a tagged object to which said RFID tag is attached, between said interrogator transceiver and the tag transceiver of said RFID tag;

wherein the control logic circuit of each RFID tag adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles the tagged object to which said RFID tag is attached, no other tagged object being handled by any other person is within reliable two-way communication range of the interrogator transceiver.

26. An RFID system having an adjustable two-way communication range so as to permit a person to individually interrogate the closest one of a plurality of nearby tagged objects, comprising:

an RFID interrogator transceiver having an antenna adapted for mounting on a person; and

a plurality of RFID tags, each tag being adapted for attachment to a tagged object, wherein each tag includes

an RFID tag transceiver which is characterized by a set of one or more performance parameters which control a reliable two-way communications range between the tag transceiver and the RFID interrogator transceiver, and

a control logic circuit, connected to the tag transceiver, for adjusting at least one of the

performance parameters so that the reliable two-way communications range between the tag transceiver and the interrogator transceiver exceeds the closest distance, during times when said person handles a tagged object to which said RFID tag is attached, between said interrogator transceiver and the tag transceiver of said RFID tag;

wherein the control logic circuit of each RFID tag adjusts said at least one of the performance parameters so that said reliable two-way communications range is short enough so that, when said person handles the tagged object to which said RFID tag is attached, no other tagged object is within reliable two-way communication range of the interrogator transceiver.

27. A system according to claim 24, wherein:

the tag transceiver of each RFID tag includes a receiver circuit having an adjustable sensitivity; and

said at least one performance parameter adjusted by the control logic circuit of each RFID tag includes the sensitivity of the receiver circuit of that RFID tag.